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SOURCE Documentary as indicated. (Information specifically requested.)

RECENTLY PUBLISHED RESEARCH OF THE GOR'KIY STATE UNIVERSITY, USSR

"Refractiometeric Method of Rapid Analysis of the Condensate in the Production of Synthetic Acetone," D. A. Frank-Kamanetskiy, Ye. Ye. Fridman, Gor'kiy State U

"Zavod Lab" Vol 13, 1947, pp 43-7

Refractive indexes n_D^{15} of ternary mixtures Me_2CO-Me_2CHOH-H_2O were determined and plotted against % H_2O for various Me_2CO-Me_2CHOH ratios. On all curves for Me_2CHOH 0-72% (of the sum Me_2CO - Me_2CHOH), n has a maximum at about 24-15% H_2O; the maximum disappears for pure Me_2CHOH-H_2O. At high H_2O contents, the curves for various Me_2CO/Me_2CHOH ratios become very close and tend to merge. Plots of density similarly constructed against % H_2O show the Me_2CO and Me_2CHOH curves to be very close to each other up to 80% H_2O where they merge into one; consequently analysis cannot be based on density determinations alone but is feasible by simultaneous measurements of n and density. On the basis of the data, two nomograms were constructed permitting the reading of the Me_2CO and the Me_2CHOH content from n and density, in ternary mixtures containing not less than 30% Me_2CO. Measurements must be reduced to 15° which is done with the aid of auxiliary nomograms constructed on the basis of determinations of the temperature coefficients. In both artificial mixtures and in industrial condensates of catalytic oxidation of Me_2CHOH to Me_2CO, the method gave an accuracy of 2% with density measured to 3, and n to 4, decimal points.

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"Composition and Instability Constants of Complex Lead and Silver Halides," I. M. Korenman, Gor'kiy State U

"Zhur Obshch Khim" Vol 16, 1946, pp 157-64

The complex ion of lead iodide is PbI_3^- and its instability constant is 3.6×10^{-6}; the complex chloride ion in $PbCl_3^-$ and its instability constant is 4.2×10^{-2}. The complex Ag iodide ion in AgI_4^{---}, its instability constant is 3.9×10^{-15}, while for the corresponding chloride the ion is $AgCl_2^-$, its instability constant being 2.3×10^{-6}.

"Synthesis and Properties of Cyclohexylhexylmethanol and 3-Cyclohexyl-2-Methylnonane," A. D. Petrov, X. M. Krutov, I. M. Khrenov, Gor'kiy State U

"Zhur Obshch Khim" Vol 15, 1945, pp 799-801

PrCHO and $C_6H_{11}MgBr$ (I) gave 72% cyclohexylpropylmethanol (II); oxidation of II with $Na_2Cr_2O_7$ and H_2SO_4 gave Pr cyclohexyl ketone, which with EtMgBr gave a mixture of an alcohol and an olefin which by distillation over I_2 gave an olefin (III). Hydrogenation of III over Pt converted this to 3-cyclohexylhexane. I and $C_6H_{13}CHO$ yielded 55% cyclohexylhexylmethanol which oxidised to 47% hexyl cyclohexyl ketone (IV). With iso-PrMgBr, IV gave a mixture of alcohol and olefin which dehydrated when vacuum-distilled over I_2 to give 31.7% of an olefin (V). Oxidation of V gave Me_2CO and IV, so that dehydration occurs mostly in the iso-Pr radical. Hydrogenation of V gave 3-cyclohexyl-2-methylnonane. Thus, replacing Ph by cyclohexyl in such compounds lowers the setting temperature, and increases the antidetonating power.

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